

&c., without the necessity of tanks or cisterns, combined with an incessant current of water through all sewers and drains, &c. I am prepared to prove to a demonstration that the above three conditions can be fully accomplished for 2,000,000*l.*, which, compared with the wealth, health, and rapid increase of above 2,000,000 of human beings, is not worth a moment's consideration.

How does the question stand at present? About 116 scientific men have sent in plans to the commissioners of sewers, and amongst this number figure about thirty engineers; yet it is a fact, that not one of their plans complies with the above three conditions. Further, not one of them has brought forth a new idea, or proposed an original scheme for the complete and effectual drainage of London.

What is to be done? Here is my proposition. It is probable that many an engineer, like myself, has refrained from sending in plans, &c., owing to the disagreement among the commissioners, and their not offering any distinct reward for the best scheme of drainage, &c. Now let the commissioners pay a reasonable sum to those who have already sent in plans, for their trouble, with liberty to compete again. The commissioners to print or exhibit every document they have, and the "concise statements," for the use of the competitors at large, and advertise for fresh plans to be sent in by January 1st, 1850, offering a prize of 2,000*l.* for the best scheme, 1,000*l.* for the second, 500*l.* for the third, &c. Every plan to be sent in under a motto, accompanied with a sealed envelope, containing the competitor's name; the envelopes of those obtaining the prizes alone to be opened.

HYDRAULIC ENGINEER.

#### WROUGHT-IRON WATER PIPES.

OUR attention has been called to a letter from Mr. G. R. Burnel, which appeared in your valuable paper on the 29th ultimo, respecting M. Chameroy's patent wrought-iron pipes. We are much obliged by the courteous and friendly manner in which the remarks are written. The nature, however, of the defects mentioned leads us to the conclusion that the pipes which have fallen under the writer's notice in France were those manufactured by a person named Ledru, who has had to pay heavy damages for infringing M. Chameroy's patent, and whose pipes have in many instances been taken up and replaced by M. Chameroy's.

The objections which Mr. Burnel raises are three, viz. :—

1. Inausufficiency of strength to resist the compression arising from lateral or transverse strains.

2. Liability of soldered joints to be detached from the pipes.

3. Liability of the outside asphalt coating to be destroyed by the settlement of the surrounding earth.

Mr. J. H. Tuck, the agent for the patent pipes, confirms in the strongest terms our impression that the abovementioned are precisely the defects which rendered Ledru's infringements valueless, but from which M. Chameroy's own pipes have been found entirely free. Be this, however, as it may, we are anxious to state that we had not failed to notice the importance of the points which have been raised; and that, in reference to the pipes which we manufacture, the following are the facts in reference to the three objections raised, viz. :—

1. The strengths of the pipes have been calculated upon careful experiments, so as to resist all strains from without as well as the internal pressure.

2. The screw joints are not soldered on, like Ledru's, but are cast (?) upon the body of the pipe in such a manner as not to be liable to be detached.

3. We are satisfied that liability to abrasion and corrosion cannot be objected to M. Chameroy's pipes. We have ourselves seen, in Paris, pipes 11 inches diameter which had served for seven years as a sewer to an urinal, and which were still in a perfect state.

We are glad to see the remark that "the pipes in question do not affect the quality of the water like those generally used." You

have already remarked that, when used for gas, they are free from the usual leakage—as may be ascertained from the present state of those which were laid down in Battersea-fields four years ago.

Experimental water pipes on this patent have been laid down in St. James's-park, and are in progress for the Chelsea water-works. But if you, or any other gentleman who takes an interest in drainage and in the safe and wholesome conveyance of gas and water, should wish to go into the subject, so as to examine the objections raised on the one hand and the good qualities alleged on the other, it will give us much pleasure to afford the fullest information in our power.

FOX, HENDERSON & CO.

#### Books.

*Tables and Formulae for the Computation of Life Contingencies, with copious examples of Annuity, Assurance, and Friendly Society Calculations.* By PETER GRAY, F.R.A.S. &c. London: Longmans and Co., 1849.

THIS new work of a standard author claims to afford greater facilities for the formation of such elaborate tables and other intricate calculations as those with which it is itself abundantly stored; and as methods of constructing such tables have been in a great measure overlooked by preceding writers, we doubt not that a work such as this, by an author like Mr. Gray, who is himself an associate of the Institute of Actuaries and an able mathematician, will be found highly acceptable. The work is well printed and the tables are in clear large figures, so as to be promptly available in reference and calculation.

*The First Three Books of Euclid's Elements of Geometry, from the Text of Robert Simson, with various useful Theorems and Problems as Exercises.* By THOMAS TATE, Mathematical Master of the National Society's Training College, Battersea, &c. London: Printed for Messrs. Longman and Co. 1849.

Another of Mr. Tate's useful little books, in form of a small pocket Euclid, published in a cheap form, with the hope that it may tend to advance the mathematical education of this country, and with an especial reference to the instruction of schoolmasters who may be desirous of obtaining a government certificate.

#### Miscellaneous.

**SOCIETY FOR THE ABOLITION OF BURIALS IN TOWNS.**—On Tuesday, 23rd, this society met at their rooms in Bridge-street, Blackfriars, Mr. G. A. Walker in the chair, Dr. Evans, Mr. Rogers, Mr. Godwin, Mr. Watts, Dr. Johnson, and others took part, and a letter from the Board of Health having been read, inviting Mr. Walker to aid them with suggestions as to the means of "remedying the vast and increasing evils of the present practice," a vote of sympathy with the Board, and expressive of the willingness of the society to aid them in their efforts, was passed unanimously.

**OUR PLASTERERS.**—In a recent number "A Plasterer" writes some very truthful lines. I think every accurate observer of artificers in the building trade will have noticed how rare it is to find a thoroughly skilful plasterer; in all the other trades (bricklayers, perhaps, excepted) the moderately skilled and the thoroughly skilled are, perhaps, in proportion of three to two; in the plasterer's craft I am bold to say the proportion would be as five to one. Now, I think your correspondent has hit the right explanation of this deficiency of skill among plasterers, in the number of task-masters, and the regular practice amongst all but the very large builders, of carrying out their plasterers' work by task-masters; as your correspondent justly observes, "how boys soon assume to be plasterers." Good work is in our day the exception, and not the rule; shall we ever see the day when the tale shall be reversed? The tradesmen have it in their power, if, as a body, they felt the true love of their trade, which was wont to be felt in days of yore.

**DISCOVERY OF ANCIENT SCULPTURE AT BLUNHAM CHURCH, BEDFORDSHIRE.**—A few weeks since, as some workmen were engaged pointing the joints in the stonework of the chancel of Blunham Church, they discovered an opening in the wall immediately beneath the east window, 2 feet high by 1 foot 9 inches wide, which penetrated the whole thickness of the wall, there about 4 feet. On clearing away the rubbish with which it was filled, four fragments of ancient sculpture were discovered, composed, according to an informant, of statuary marble.\* The first, a standing figure of the Virgin and Child, both the heads knocked off. Secondly, a figure with white robes, kneeling before another, the feet of which only remain. Thirdly, a fine group in alto relief, representing the Saviour bearing the cross; immediately behind is the Virgin Mary, who is endeavouring to bear some portion of the weight of the cross; a female figure bearing a palm branch, probably intended for Mary Magdalene follows next; in the centre of the group, behind, is the Roman Centurion. Next was a figure, the head of which is destroyed, whose hands are placed upon the upper part of the cross as if in the act of steadying it. On the left hand corner is seen the executioner, with a hammer in his hand, the cruel malignity of whose countenance is in striking contrast with the calm subdued grief depicted in the features of the Virgin Mother, at the opposite corner. In front is one of the Jewish rabble, with a rope over his shoulder, leading, or rather dragging, the suffering Saviour as a lamb to the slaughter. The lower part of this piece is broken off; but the heads, with but one exception, are in good preservation, and exhibit full proof that physiognomy was well understood at the time the work was executed. Fourthly, the lower part of the figure of Joseph of Arimathea, who is represented as sitting on the edge of a tomb, with ample folds of fine linen in his lap, on which lies the dead body of the Saviour; the right hand of Joseph, beneath the linen cloth, supported the head which has been broken off. The death-like appearance of the body, and the strained appearance of the muscles, serve to elucidate that scripture, "All my bones are out of joint." Gilding and painting, with brilliant colours, were employed on each specimen to add to the effect, which, when entire, must have been very good. The height of the specimens was originally about 18 inches.

**WOLVERHAMPTON EXCHANGE.**—We mentioned last week, in our provincial notes, that the design for the Exchange selected is by Mr. Robinson. We are enabled to add, that it is in the Italian style, and comprises a large hall, 100 feet long and 50 feet high, lighted at the top by a dome, upwards of 30 feet in diameter. At the north end of the hall is a large alcoved space (also lighted from the top by a semidome), for the purpose of a settling room, and in connection therewith is a large private room for the corn inspector and for other purposes. At the south end of the hall is a spacious area for the use of the iron-masters, having private rooms for business. The principal entrance to the hall and to the adjoining rooms is on the west side, through an archway in the centre of the building, and from this archway is an ascent by steps, which lead up on either side to a vestibule and entrance to the hall at each end. A design by Mr. Meyrick was selected as second.

**HOW TO RESOLVE THE QUESTION WHETHER IMPURE WATER PROMOTES CHOLERA.**—A correspondent of the *Morning Herald*, while alluding to the apparent connection of cholera with the metropolitan supply of water south of the Thames, already pointed out in *THE BUILDER*, suggests that the Board of Health might be able, by parochial assistance, to obtain returns from every house respecting the source from which its inhabitants are supplied. The returns should also state the number of cholera cases that had occurred in each house. The result would be, that, by means of a little classification, we should be acquainted with the particulars that there had been so many cases where spring water, so many where the Grand Junction Company's water, &c., was used. Such data would be of service to the investigation of the question above alluded to.

\* Query Alabaster?